**3GPP TSG RAN WG1 #118 R1-240xxxx**

**Maastricht, NL, August 19th - 23rd, 2024**

**Agenda item:** **8.1**

**Source: Moderator (Apple)**

**Title: Summary of discussions on R1-2406824 DCI format for scheduling of MBS**

**Document for:** **Discussion/Decision**

# Introduction

This document is a summary of discussions on the Rel-18 draft CR on DCI format for scheduling of MBS [1]. The draft CR is copied to Appendix for reference.

# Discussion

For Rel-18 MBS work item, RAN1’s work is triggered by RAN2 LS in R1-2304325 on multicast reception in RRC\_INACTIVE. To response RAN2’s questions, RAN1 made the following agreements and send the LS reply in [2].

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| * **Question 1:** Is the following RAN2 assumption feasible? If feasible, whether both DCI format 4-1 and DCI format 4-2 are needed?
	+ *For MTCH, RAN2 assumes to reuse the same DCI formats of R17 multicast (i.e. DCI format 4-1/4-2) for dynamic scheduling of multicast in RRC INACTIVE. RAN2 assumes for multicast MCCH scheduling, DCI format 4-0 is used.*

**Reply:** From RAN1’s perspective, the above RAN2 assumption is feasible. For the detailed DCI formats, DCI format 4\_0 can be reused for multicast MCCH reception in RRC\_INACTIVE. DCI format 4\_1 can be reused for multicast MTCH reception in RRC\_INACTIVE. There is no consensus to support DCI format 4\_2 for multicast MTCH reception in RRC INACTIVE in RAN1. |

Based on the RAN1 agreement, the DCI format 4\_0 is use for multicast MCCH reception and is specified in TS38.212. It is important to note that the value of Multicast MCCH-RNTI is not to be configured by RRC signaling but is fixed in the specification according to TS38.321. This draft CR aims to correct this error as shown below.

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| 7.3.1.5.1 Format 4\_0DCI format 4\_0 is used for the scheduling of PDSCH for broadcast or for multicast in RRC\_INACTIVE state in DL cell. The following information is transmitted by means of the DCI format 4\_0 with CRC scrambled by MCCH-RNTI or G-RNTI for broadcast configured by *MBS-SessionInfo,* or by Multicast MCCH-RNTI for multicast -: |

**Proposal 1: Adopt the CR in R1-2406824.**

Table 1. Company views on moderator’s proposal 1

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| **Company Name** | **Support (Yes/No)** | **Comments if answer is No or if any update of the CR is needed.** |
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# Conclusion

TBD.

# References

1. R1-2406824, Draft CR on DCI format for scheduling of MBS, Apple, August 2024
2. R1-2306243, “Reply LS on multicast reception in RRC\_INACTIVE”, RAN1, May 2023

# Appendix

Draft CR in [R1-2406824](https://www.3gpp.org/ftp/tsg_ran/WG1_RL1/TSGR1_118/Docs/R1-2406824.zip).

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| 7.3.1.5 DCI formats for scheduling of MBS7.3.1.5.1 Format 4\_0DCI format 4\_0 is used for the scheduling of PDSCH for broadcast or for multicast in RRC\_INACTIVE state in DL cell. The following information is transmitted by means of the DCI format 4\_0 with CRC scrambled by MCCH-RNTI or G-RNTI for broadcast configured by *MBS-SessionInfo,* or by Multicast MCCH-RNTI for multicast -:- Frequency domain resource assignment - bits where equals to - the size of CORESET 0 if CORESET 0 is configured for the cell; and - the size of initial DL bandwidth part if CORESET 0 is not configured for the cell.- Time domain resource assignment - 4 bits as defined in Clause 5.1.2.1 of [6, TS38.214]- VRB-to-PRB mapping - 1 bit according to Table 7.3.1.2.2-5- Modulation and coding scheme - 5 bits as defined in Clause 5.1.3 of [6, TS38.214]- Redundancy version - 2 bits as defined in Table 7.3.1.1.1-2- MCCH change notification - 2 bits as defined in Clause 5.9.1.3 and Clause 5.10.1.3 of [9, TS38.331] if the CRC of the DCI format 4\_0 is scrambled by MCCH-RNTI and Multicast MCCH-RNTI respectively. Otherwise, this bit field is reserved. - Reserved bits - 14bits |